



# ***Common Technical Framework*** **Conceptual Models** **of the Mission Space (CMMS)**

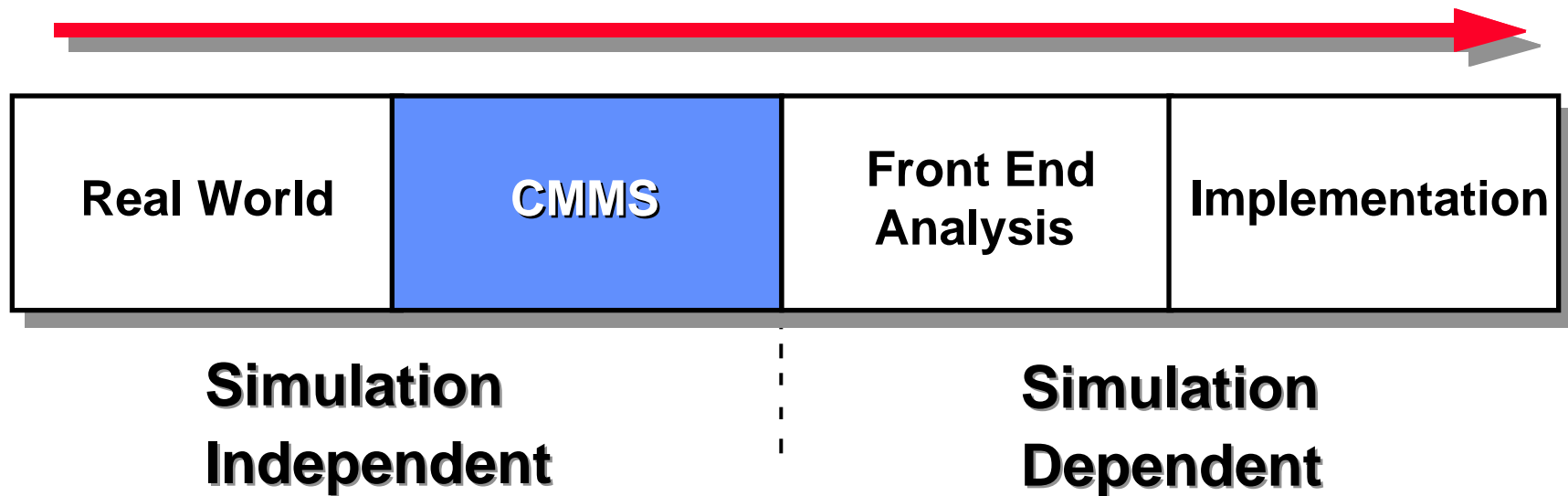
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# CMMS

## Simulation Development Process



***Every simulation developer builds something like a CMMS. The problem has been that they aren't authoritative and we throw them away.***

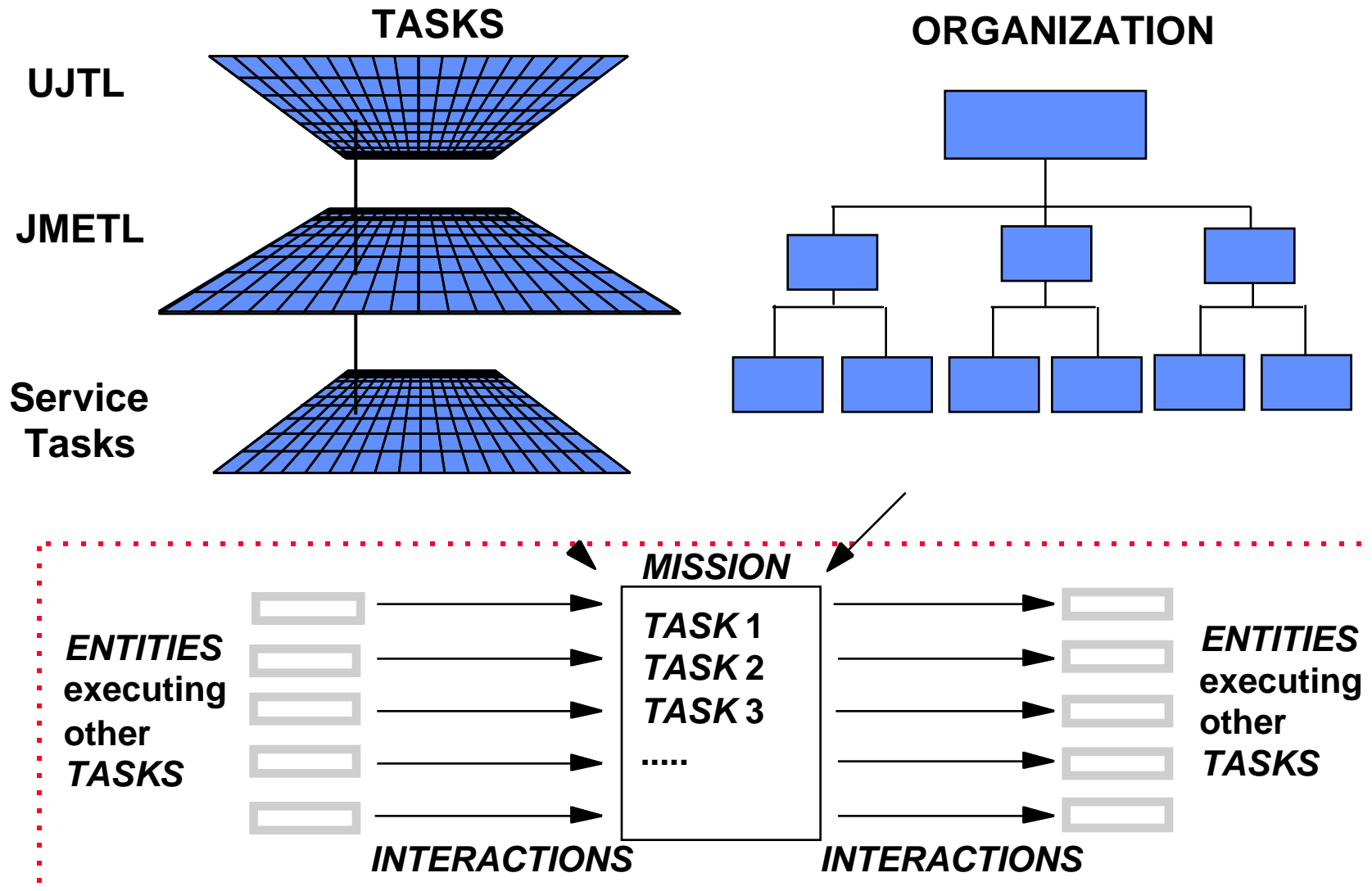


# What is a CMMS?

- A hierarchical description of the actions and interactions among the various entities associated with a particular mission area
- An authoritative first abstraction of the real world
- A common framework for knowledge acquisition
  - Validated, relevant actions and interactions organized by specific task and entity/organization
  - Standard format for expression
- The purpose of CMMS is to cost-effectively provide simulation developers (and others) a common understanding of the real world

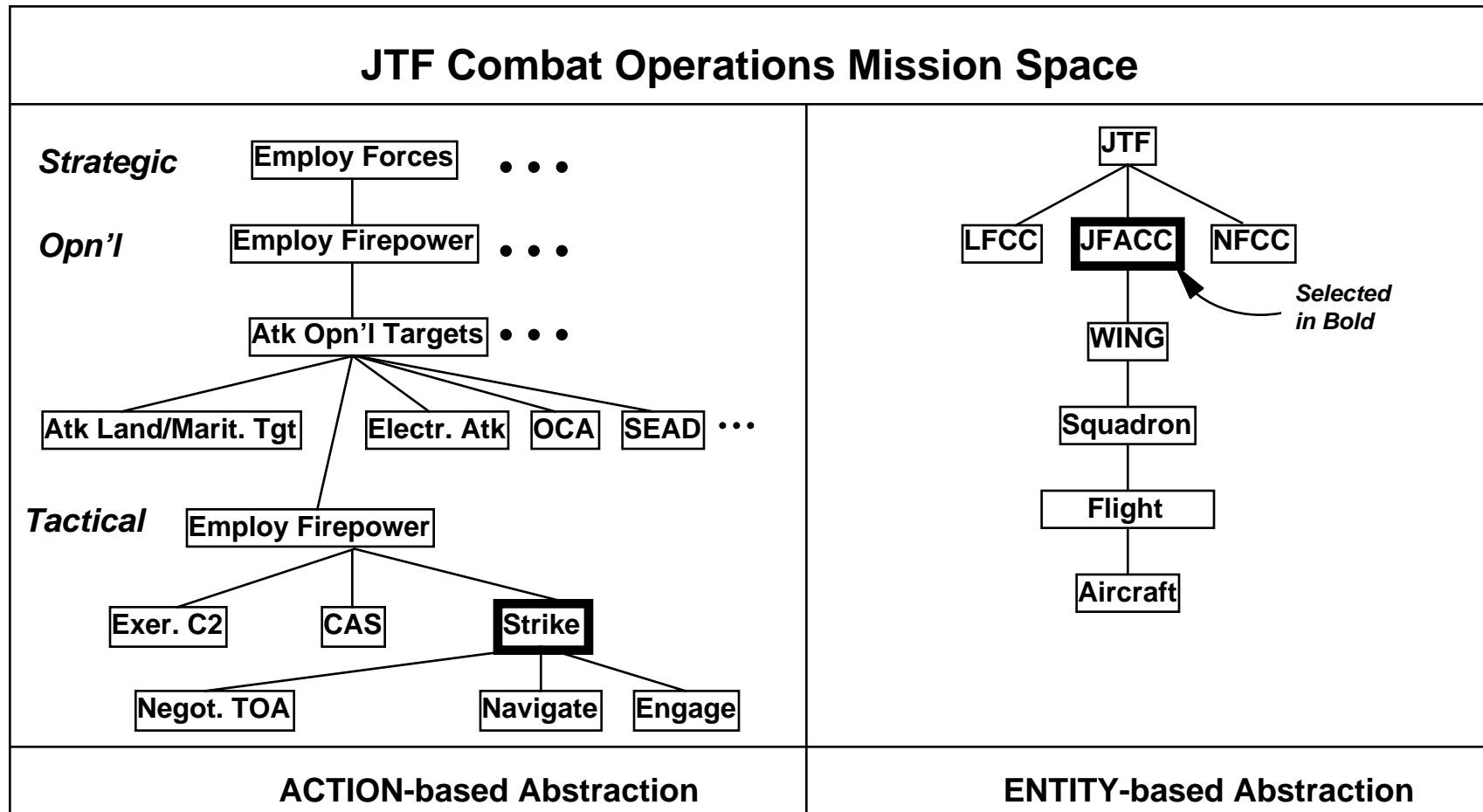


# Organizational Concept





# ACTION and ENTITY Selection Example

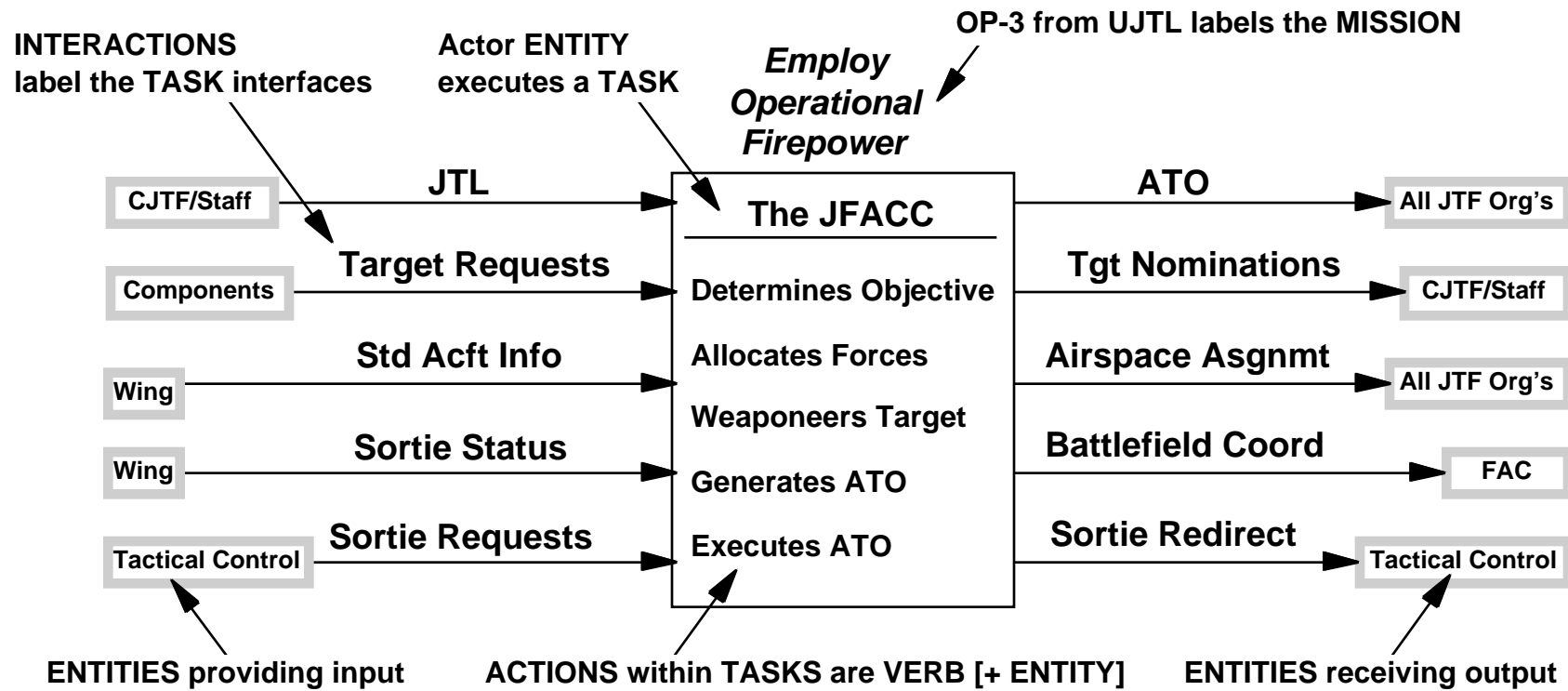


***User Selects the ACTIONS Involved and allocates ENTITIES to execute these ACTIONS in the Strike Task by the JFACC ...***



# ENTITIES, ACTIONS, TASKS, and INTERACTIONS

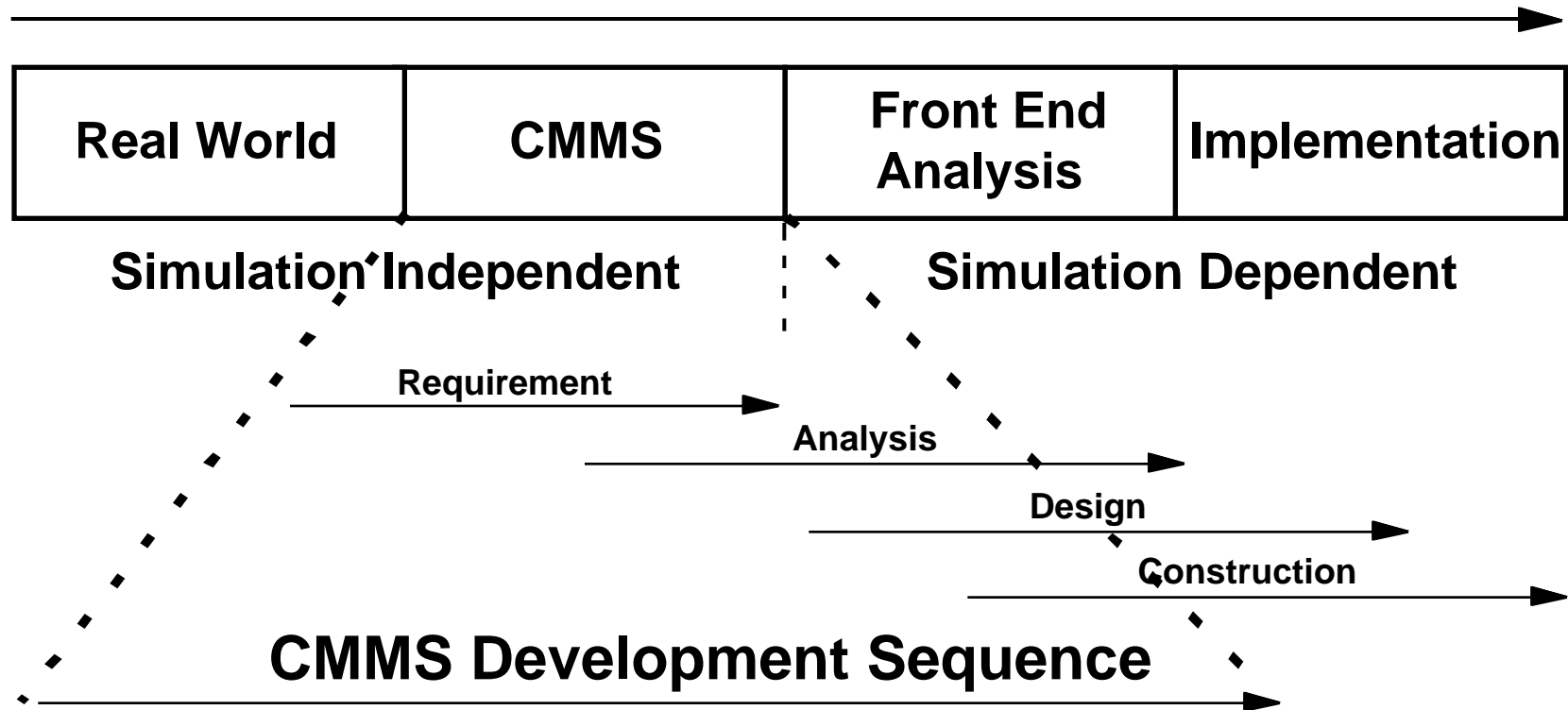
## JTF Combat Operations Mission Space



***Template shows the JFACC tasks  
(e.g., JFACC generates ATO)  
along with inputs, outputs, and their interfaces***



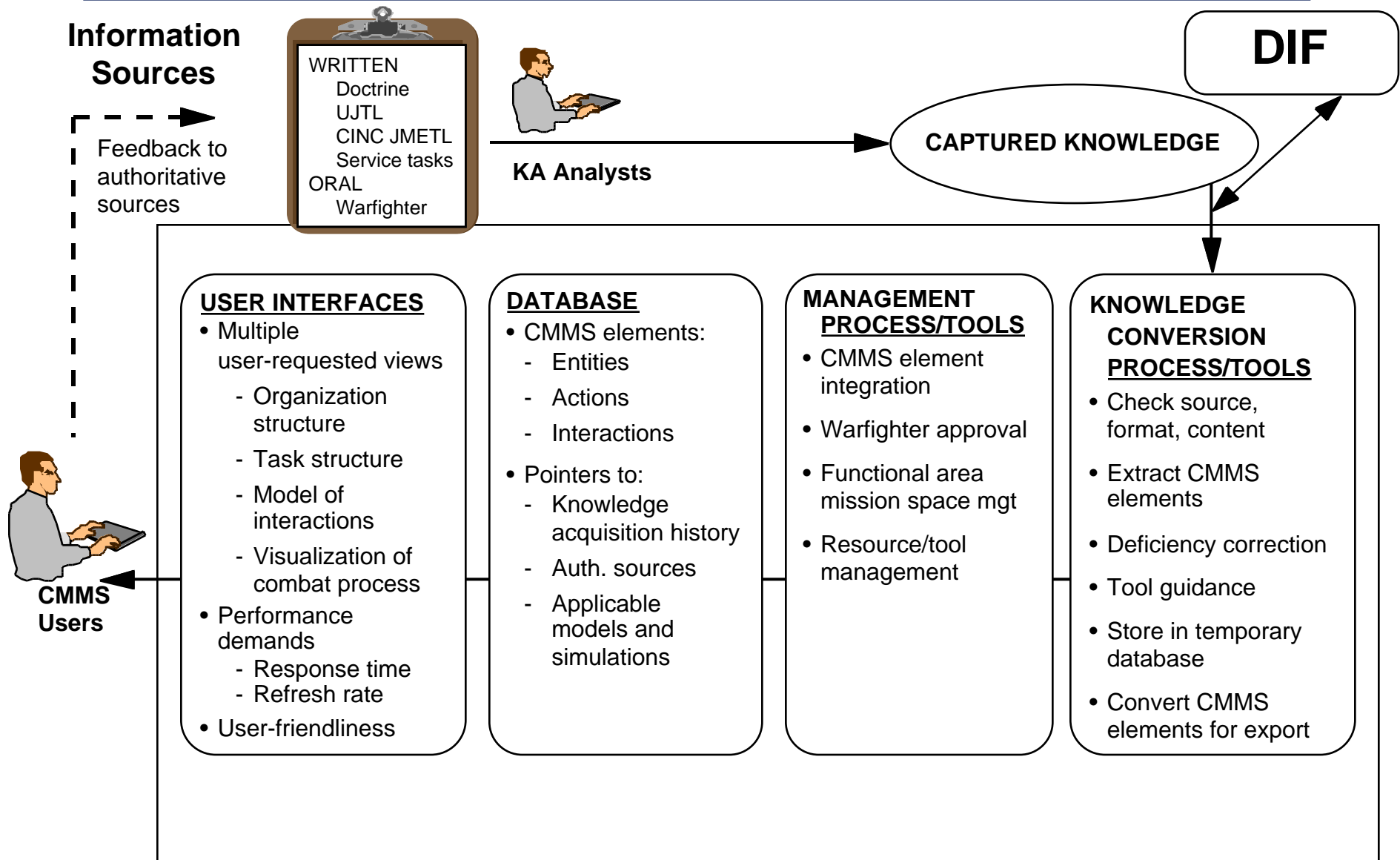
# Simulation Development Sequence



Issue: Is OOA  
CMMS or  
Front End Analysis?



# CMMS Process/Tech Framework







# CMMS Prototype 1 Cycle Lessons Learned

- No CSS, no integration
- DIF required for efficient conversion
- Export API's necessary to compliment import API's
- Is VV&A done prior to conversion and integration, after, or both?
- How are VV&C values aggregated?



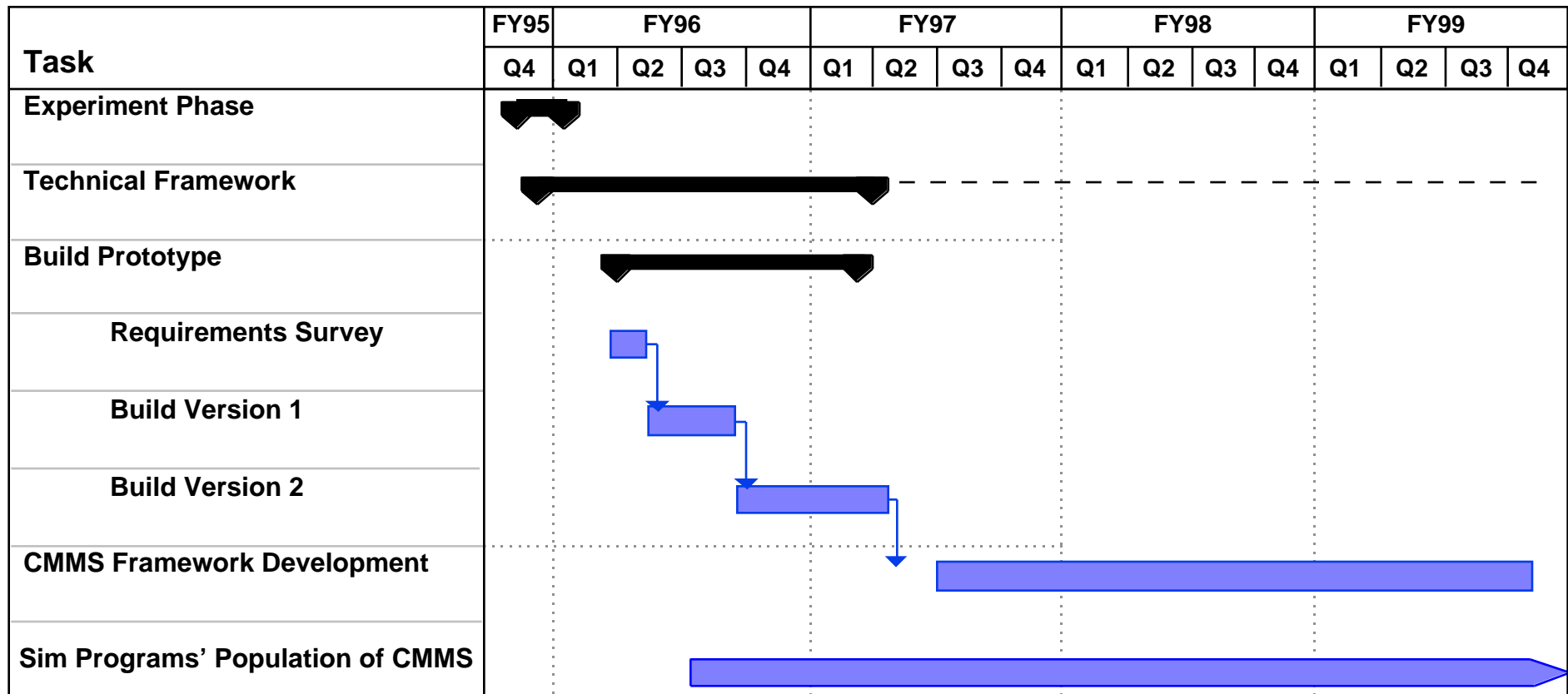
## CMMS Prototype Cycle 2

- **Develop DIFs and improved conversion routines for existing programs**
- **Add functionality to capture additional elements in Technical Framework (e.g., conditions, sequencing)**
- **Add functionality to reflect new Technical Framework functions**
- **CMMS use-case by simulation developer**



# Long Range Schedule

## CMMS Execution





# Why Should I Care about the CMMS?

- Provides a direct link between the warfighter and the simulation developer for credible, trusted simulations
- Everybody doesn't have to do all Knowledge Acquisition by themselves--can reuse others' KA
- It forces use of authoritative data sources (Warfighter in control)
- Increases likelihood of interoperability with other simulations
- Useful for training and doctrine development, as well as simulation development
- Means to map M&S capabilities against real world
- Provides traceability for VV&A
- Means to alert developers of need for updates